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Shared natural resources: comments and observations by Governments on the draft articles on the law of transboundary aquifers

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I. Introduction

1. At its fifty-eighth session (2006), the International Law Commission adopted, on first reading, draft articles on the law of transboundary aquifers.[1] In paragraph 73 of its report, the Commission decided, in accordance with articles 16 and 21 of its statute, to request the Secretary-General to transmit the draft articles to Governments for comments and observations, requesting also that such comments and observations be submitted to the Secretary-General by 1 January 2008. In paragraph 26 of the report, the Commission noted that it would welcome comments and observations from Governments on all aspects of the draft articles, the commentaries to the draft articles and on the final form. The Secretary-General circulated a note dated 27 November 2006 transmitting the draft articles to Governments. In paragraph 5 of its resolution 61/34 and paragraph 6 of its resolution 62/66, the General Assembly drew the attention of Governments to the importance, for the Commission, of having their views on the draft articles.

2. As at 31 March 2008, replies had been received from the following States: Austria, Brazil, Canada, Colombia, Cuba, the Czech Republic, Finland, Germany, Hungary, Iraq, Israel, The Netherlands, Poland, Portugal, Saudi Arabia, Republic of Korea, Serbia, and Turkey. The replies have been organized thematically, starting with general comments and continuing on an article by article basis.

II. Comments and observations received from Governments

A. General comments

Brazil

3. Brazil expresses its appreciation for the work done by the Commission in the consideration of such a complex and relevant issue. Brazil also wishes to thank the Special Rapporteur, Mr. Chusei Yamada, and the Working Group chaired by Mr. Enrique Candioti for their efficient work and contribution, which made it possible to conclude the first reading in a relatively short time.

4. The main contribution to be made by the Commission, whose draft articles should guide the future work of the United Nations General Assembly on that matter, should be the establishment of a set of generic principles. These principles should be sufficiently flexible and balanced in order to allow for States where the transboundary aquifers are located to base their cooperation with a view to taking the best advantage of the aquifers in an equitable manner and according to the specific characteristics of each aquifer. It is up to the States themselves to develop, as appropriate, their own instruments and mechanisms, taking into consideration particular situations and different regional realities. Due to multiple situations and regional realities, the draft articles should recognize the primacy of regional agreements as the most appropriate to regulate cooperation as regards transboundary aquifers.

[1] *Official Records of the General Assembly, Sixty-first Session, Supplement No. 10* (A/61/10), para.75.

5. The work of the Commission and the General Assembly should be directed towards the establishment of generic principles which could guide States in the negotiation of regional agreements of a more specific nature. By doing so, the Commission and the General Assembly will avoid the risks of elaborating a text that will not gather broad consensus among States for being too ambitious and with too many technical and legal details. Furthermore, a text which is more flexible and open could contribute to raising awareness about the subject and heightening the priority of the issue in the agendas of States, encouraging them to negotiate regional agreements. In the view of Brazil, the draft articles reflect a careful balance between the principle of sovereignty of States over the natural resources located under their jurisdiction and the obligation of not causing significant harm to such resources. It is imperative to maintain such a balance and avoid excessive restrictions to legitimate activities carried out by States.

Canada

6. Canada appreciates the valuable work of the Commission in its examination of possible options for international law that may be applicable to transboundary aquifers. In some aspects, notably in its application of the *sic utere tuo ut alienum non laedas* principle as the basis for an obligation not to cause transboundary harm, the Commission reinforces that principle as a bedrock of customary international law.

Colombia

7. The draft articles submitted by the Commission address the substantive issues relating to transboundary underground water resources, as well as the rights and responsibilities of States with regard to conserving and preserving such resources. They provide a regulatory framework designed to ensure the comprehensive and harmonious management of water resources with a view to the conservation, management and utilization of transboundary aquifers.

8. The outcomes of the activities set out in the draft articles will be extremely important and useful for States with shared aquifers and natural resources, since they will generate the data needed to prioritize activities and to ensure that those resources are managed in an environmentally sensitive manner.

9. Nevertheless, the following points should be borne in mind for Colombia: a comprehensive legal review should be undertaken in order to determine the compatibility of the draft articles with current provisions of national legislation on the same subject, such as Act No. 191 of 1995 (Border Act) and the National Code on Natural Resources and Environmental Protection, the relevant regulatory decrees and the multilateral and bilateral agreements governing Colombia's relationships involving those resources.

10. In order to comply with the provisions of draft articles 4, 5, 8, 9, 11, 12, 13 and 14, each State will initially be required to undertake to identify, delimit and assess the condition, capacity (supply) and usability (feasibility of utilization) of the aquifers located within its borders. In this connection, it

is important to consider whether it would be possible to establish financial machinery or a mechanism for international cooperation to assist States to carry out that task.

11. In order to implement, in a consistent manner, the provisions of draft articles 1 and 14 relating to other activities, it will be necessary to begin harmonizing the requirements, conditions and terms of reference for works or activities involving aquifers or groundwater recharge zones that require licences or environmental permits.

12. With regard to the proposal concerning the regular exchange of data and information between States with jurisdiction over a transboundary aquifer, it will first be necessary to develop data-collection protocols and formats so as to ensure that the data and information collected are complementary and add value, thus providing the necessary inputs for the joint development by the countries concerned of planning and management activities.

13. It is noticeable that the draft articles, when referring to the harm or eventual harm caused to aquifers, employ qualifiers such as "significant" ["*sensible*" or "*significativo*" in Spanish] or "serious" ["*grave*" in Spanish]. In this regard, the meaning and scope of those terms should be clarified, the draft articles should therefore define the scope of that concept so as to provide a basis for determining the cases in which the legal effects provided for by the draft articles will be produced.

Cuba

14. It is not sufficient to use the phrase "equitable and reasonable utilization" in various places throughout the text, given the increasingly strong preference in environmental law to employ the term "sustainable", as reflected in the Convention on Biological Diversity, adopted in Rio de Janeiro on 5 June 1992. Cuba therefore believes that the phrase "equitable and sustainable utilization" would be more appropriate.

15. Cuba also wishes to express its gratitude to the Special Rapporteur for his efforts in preparing the four reports considered by the Commission and, in particular, for his proposal to take a step-by-step approach to the topic, beginning with transboundary groundwaters. It also extends its thanks to Mr. Enrique Candioti, Chairman of the Working Group on Shared Natural Resources, for his efforts in preparing the draft articles.

Czech Republic

16. The Czech Republic appreciates the result of the discussions of the Commission held to date, namely the draft articles on the law of transboundary aquifers. It is of the opinion that this text can serve in the future as the basis for the negotiation of detailed bilateral or multilateral agreements on transboundary aquifers. The draft articles on transboundary aquifers constitute a balance between the principles of sovereignty of States over natural resources, their reasonable and equitable utilization, their preservation and protection and the obligation not to cause significant harm.

17. Nevertheless, the Czech Republic would like to make several comments on the draft articles on the law of transboundary aquifers, in particular on draft articles 7 and 14 (see below).

Finland

18. It should be noted that the draft articles are burdened with an overly timid approach. For example, the environmental protection obligations laid down in the draft articles remain modest as compared with the Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes concluded in 1992. While the Convention has not been used as a reference document in the preparation of the draft articles, it is one of the very few international regional instruments where the framework for cooperation in the case of groundwaters has been properly developed and which could serve as a model for the further preparation of the Commission draft.

19. The 1997 Convention on the Law of the Non-navigational Uses of International Watercourses also sets an example, although one that is not entirely encouraging. At the time of the negotiations on that Convention, the Commission draft articles relating to that Convention could be strengthened only in certain respects, and regarding many conflicting issues, the Commission text was referred to as a compromise. It was striking that States were not willing to become bound, through a legally binding instrument, by the principles adopted by them for instance at the United Nations Conference on Environment and Development held in Rio de Janeiro in 1992. The 1997 Convention has attracted only a small number of ratifications.

20. The draft articles on the law of transboundary aquifers are largely based on the principles adopted in the 1997 Convention, essentially designed to regulate surface waters. In the United Nations Economic Commission for Europe Convention, the term "transboundary waters" means both surface and ground waters which mark, cross or are located on boundaries between two or more States. There is nevertheless reason to consider any specific features of groundwaters independently, instead of leaning too much on the 1997 Convention. It is also worth noting that environmental issues relating to groundwaters are completely different in nature from those connected to gas and oil, so the same principles do not apply. This should be taken into account by the Commission if it decides to commence the consideration of gas and oil in the future.

21. Today, many international conventions regarding the environment are drafted as framework conventions. Cooperation regarding them is governed and developed through meetings of the parties and subsidiary bodies. Different types of conventional regimes have resulted from this kind of cooperation. For example, detailed protocols have been adopted under a number of conventions with a view to specifying general provisions laid down in them. It is worth noting that the Commission draft articles do not contain elements of such regime thinking. Instead, the document is meant as a general instrument intended to create a framework for regional or bilateral cooperation. Even if this starting point has its justification, it also has its risks. States are not necessarily motivated to ratify a general convention standing for a collection of principles; nor is such a convention bound to generate significant added value. Furthermore, in the absence of a dynamic regime element, an eventual general convention would not be more than a dormant list of principles. It would be important to

encourage States to engage in mutual, bilateral cooperation, emphasizing the importance of mutual agreements, plans and other forms of cooperation between neighbouring States with a view to making more specific agreements on the details relating to the use and protection of water resources.

22. In the interests of clarity, consideration should be given to harmonizing the relevant terms throughout the draft articles. It should be pointed out that in draft article 6, the term "significant harm" is introduced to establish the threshold for the negative impact resulting, inter alia, from the utilization of a transboundary aquifer on other States. In draft article 14 related to the planned activities, however, an aquifer State would be obliged to notify other States in case the planned activities would have "a significant adverse effect" upon them. Furthermore, in draft article 16 concerning the measures to be taken in emergency situations, an aquifer State would be obliged to notify other potentially affected states of any emergency situation that may cause them "serious harm".

23. The different formulations used in the draft articles also reveal that the Commission has not drawn up the text along the lines of the prevailing approach of sustainable development. As a further example, draft article 5(b) refers to the social, economic and other needs with no mention of the environmental dimension. It would be appropriate to replace the term "reasonable" in draft article 4 by "sustainable" to reflect the approach of sustainable development.

24. In future work, the impacts of different types of environmental threats on the quality and quantity of groundwaters will have to be a key consideration. In this respect, the Commission should consider any impacts of climate change in particular. In further work done for the preparation of the draft articles, in addition to the abstraction and protection of groundwater, any new uses of aquifers, i.e. formations storing groundwater, such as carbon dioxide storage or resources of geothermal heat, should also be taken into consideration.

25. In conclusion, Finland would like to focus attention on the 1992 ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, the contents of which are much more comprehensive and detailed than the present draft international instrument under preparation. The Convention in question, ratified, so far, by 36 States including the Russian Federation, took effect in 1996. The parties adopted the supplement to the Water Convention in 2003, enabling States outside the ECE area to accede to the Convention too.

Germany

26. Germany is pleased that the Commission has taken up the issue of transboundary aquifers because the use of groundwater can often trigger conflicts, particularly beyond Europe's borders. This is true in relation to both the quantity and the composition of groundwater. Given the conflict potential, an international convention or a declaration of principles seems to be a useful step. In particular, the general principles as laid down in draft articles 3 to 8 are a clear improvement on the manner of resource utilization to date, anchoring the principles of cooperation and coordinated utilization.

27. As regards the utilization of groundwater in Germany and of transboundary groundwater between Germany and its neighbouring countries, Germany even today meets the requirements outlined in the Commission draft articles since it is bound by the European Union Water Framework Directive (Directive 2000/60/EC) and the Groundwater Daughter Directive (Directive 2006/118/EC) on the protection of groundwater and these have been implemented in Federal and Land law.

28. For Germany, it is important to ensure that work caused by any future reporting requirements linked to the implementation and application of the United Nations regulations does not duplicate that created by the obligations laid down in the Water Framework Directive and/or the Groundwater Daughter Directive.

29. As a matter of principle, groundwater should be considered separately, in a different way from oil and gas deposits, even if some geological factors would suggest dealing with them together. However, the geological approach completely ignores social and economic implications which play an important role when it comes to groundwater. Oil and gas deposits are usually found much deeper than groundwater deposits and this makes comparisons problematic.

30. Germany would be pleased to see its proposals reflected in the forthcoming second reading. As the Special Rapporteur recommended, this reading should be conducted regardless of any possible future work on oil and gas.

Israel

31. Israel does not see a reason to divide the draft articles into two separate parts. Israel suggests combining Parts II and III in order to avoid the implication that a hierarchy exists between the different articles. As reflected in its comments below, Israel notes that cooperation between all States in all relevant matters regarding transboundary aquifers, as discussed in the draft articles, is of great importance and is vital for the preservation and management of the aquifers, as well for the well-being of the populations concerned.

32. Israel would like to reiterate its support, which was already voiced in its address to the Sixth Committee on 2 November 2007, for the conclusions of the Special Rapporteur in his Fourth Report (A/CN.4/580), in which he expressed the view that the Commission should deal with the matter of transboundary aquifers independent of its future work regarding oil and natural gas.

The Netherlands

33. The Netherlands follows with great interest the work of the Commission on shared natural resources. The Netherlands is a country where many natural resources can be found that it shares with other States or are in areas beyond the limits of national jurisdiction. These include groundwater, mineral deposits, such as oil and gas, and migratory species on land, in the air, and in the sea. The international regulation of the uses of and impacts on shared natural resources is therefore evidently of the highest significance to the Netherlands. Only aquifers are covered by the present draft articles. Further work on other shared natural resources is anticipated following the completion of the work on

aquifers. It would therefore seem that one or more additional sets of rules are envisaged for those other shared natural resources. The present approach would seem to forego the opportunity to develop an overarching set of rules for all shared natural resources. In particular, it has not been sufficiently clarified why the draft articles could not also apply to gaseous substances and liquid substances other than groundwater. It is noted in paragraph (2) of the General Commentary to the draft articles that the Special Rapporteur is aware that there are many similarities with oil and gas, and that it would be necessary to give due attention to the relationship before completing the second reading. The Netherlands supports this view and would like to call upon the Commission to give due attention to this aspect during the second reading of the draft articles. It would appear that the majority of the draft articles, notably the underlying obligation of equitable and reasonable utilization and the obligation not to cause significant harm to other States, equally apply to other shared natural resources, such as gaseous substances and liquid substances other than groundwater. The Netherlands is therefore not yet convinced that a separate approach is required for other shared natural resources.

Poland

34. Poland welcomes the completion of the first reading of the draft articles on the law of transboundary aquifers and aquifer systems. The topic represents an urgently needed further development of international law on water resources.

35. Since water resources are essential for human existence, the international regulations on the utilization and protection of transboundary aquifers and aquifer systems are very topical and of the highest significance.

36. In the opinion of Poland, the draft articles provide generally useful guidance for States on the principles and rules concerning transboundary aquifers and aquifer systems, creating a proper balance between the need to utilize aquifers and the need to protect them in the long term. However, it might also be useful to include in the draft articles provisions on general duties applicable to all States as well as a reference to the activities of non-aquifer States, which could have an impact on transboundary aquifers and aquifer systems.

37. In order to avoid possible overlap, it seems also essential to identify the relationship between the draft articles and the 1997 United Nations Convention on the Law of the Non-navigational Uses of International Watercourses, because transboundary aquifers which are hydraulically connected with international watercourses will be subject to both instruments.

38. Taking into account the great diversity of transboundary aquifers and aquifer systems, the Commission has to be commended for taking a framework approach in elaborating the draft articles, which could be adapted to the needs of specific transboundary aquifers through bilateral or regional agreements between States that share a particular aquifer or aquifer system.

39. As to the general principles referred to in Part II of the draft articles, it seems that the nature of the topic in question fully justifies stressing the aspect of sustainability. Thus, the principle of sustainable development fully deserved to be included in this part.

40. Moreover, it is proposed that two other principles of international environmental law, namely the principle of obligatory education, as well as the precautionary principle be also added to this part.

41. The principle of obligatory education in such a highly vulnerable area as underground water resources has special importance for the public and, particularly, Government and municipal authorities, i.e. those directly responsible for water utilization and management.

42. As to the precautionary approach principle (the term needs further clarification), it should be treated as a general principle applicable throughout the draft articles to issues such as overexploitation, the lowering of water tables, surface subsidence, and not just to the prevention, reduction and control of pollution (see draft article 11).

Portugal

43. Portugal would like to commend the Special Rapporteur for his commitment to the development of this topic, in view of its complex multidisciplinary character, and for his exhaustive work in producing a very good set of draft articles, taking into account the importance of aquifers for the future of mankind. Portugal continues to have the highest expectations of his work. A word of appreciation is also due to the Working Group on Shared Natural Resources and to the experts on groundwaters that cooperated with the Commission.

44. The solutions presented so far are well balanced and one can detect some similarities between the draft articles and some articles of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, as well as the United Nations Convention on the Law of the Sea, which demonstrates that these solutions are in line with the progression of contemporary international law.

45. Additionally, this being a major concern to Portugal, the draft articles are compatible with the European Law on the matter already binding Portugal, namely the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy and the Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration. Nevertheless, Portugal considers that even though there is specific European law applicable to this subject matter, it should not hamper the European Union's Member States in contributing to the development and universal codification of the law of transboundary aquifers.

46. In a general perspective, Portugal notes that the draft articles reflect a greater concern with the qualitative aspects rather than with the quantitative aspects. Portugal believes that the quantitative aspects and the qualitative aspects should not be dissociated and that the draft articles should reflect both aspects in a more balanced way. In what concerns the quality of the groundwaters, the draft articles refer the question of prevention and control of pollution, which is an aspect of fundamental concern. However, there is no reference to the procedure that States should adopt in the event of present or future problems related to the quality of water in transnational aquifers. It is very important that the States affected or otherwise involved with the pollution problem adopt similar and simultaneous measures to minimize it.

47. Portugal would like also to state that it finds commendable the inclusion in the draft articles of provisions concerning the human right to water and the principles of international environmental law.

Republic of Korea

48. The Republic of Korea considers that the valuable work on shared natural resources by the Commission represents a timely contribution to the progress development through codification in this field of law.

49. The Republic of Korea notes that some provisions in the draft articles codify existing customary rules, thus reflecting current practice and obligations of States, doctrine and jurisprudence. However, there appear to be other provisions which go beyond the current practice and obligations of States, which means that the draft articles are more than a declaration of customary law or a reasonable progressive development of that law. It is emphasized that more careful consideration and discussion will thus be needed.

50. It might be the case that if there are no real incentives for non-aquifer States, then only aquifer States would become parties to such an instrument.

51. Regarding non-party States, State Parties would be reluctant to assume potentially significant obligations for the benefit of non-Party States that have not themselves accepted the obligations of the convention.

52. An important decision is before the Commission as to whether it needs to move beyond transboundary aquifers and then to deal also with other shared natural resources. It is advisable that the Commission exercise caution in this matter. States and industries have immense economic and political stakes in the allocation and regulation of oil and gas resources, and any proposal by the Commission is likely to be highly controversial. States in the international community already have considerable experience and practice in dealing with transboundary oil and gas reservoir. It is doubtful whether the Commission should go beyond the issue of transboundary aquifers.

Saudi Arabia

53. The draft articles do not address: (a) the banning of directional, slant and horizontal drilling in aquifers; (b) the non-provision to parties that are not aquifer or aquifer system States; (c) how to take into account differences in the area, extent, thickness, and other characteristics of an aquifer; the direction of the flow of the groundwaters; or variations in population from State to State; (d) the use of pollution-causing substances and their effect on aquifers or aquifer systems; (e) non-renewable aquifers, aquifers in desert regions and aquifers in regions with abundant rainfall.

54. The draft articles deal with hidden groundwater sources, a subject fraught with dangers because of the lack of precise information and data, and the many underground geological formations, such as fissures and folds, which might impede the flow of such groundwaters. Those factors were not taken into account.

55. The draft articles do not distinguish between dry desert areas that receive little rain and areas that are rich in groundwaters. This is why utilization of transboundary aquifers in desert areas must be prioritized for specific purposes, such as for provision of drinking water.

56. It would be preferable to have a mechanism for the exchange of successful experiences in the management of transboundary aquifers in order for other countries to benefit from that experience.

57. The general concept underlying the draft articles encompasses both aquifers and aquifer systems. However, some of the articles refer only to aquifers, not aquifer systems, including draft article 6 (2), draft article 7 (1), and draft article 8, inter alia.

58. In paragraph (4) of the general commentary, the Commission considered the question of whether it would be necessary to structure the draft articles in such a way as to have obligations that will apply to all States generally, obligations of aquifer States vis-à-vis other aquifer States and obligations of aquifer States vis-à-vis non-aquifer States. It was decided that, in order to be effective, some draft articles would have to impose obligations on States which do not share the transboundary aquifer in question and in certain cases give rights to the latter States towards the States of that aquifer. In reaching these conclusions, the Commission stressed the need to protect the transboundary aquifer or aquifer system.

59. The wording of this paragraph requires clarification as it suggests that it is possible that some non-aquifer States may be given rights towards the States of an aquifer, despite the fact that they are not States of that aquifer and are not parties to that project. This item should be reconsidered. The text also speaks of obligations that will apply to all States generally and obligations of aquifer States vis-à-vis other aquifer States. Those obligations, however, were not specified.

Serbia

60. Following consultations with relevant institutions and institutes in Serbia, Serbia has considered all aspects of the draft articles and the commentaries thereto and does not have any supplemental comments to add.

Switzerland

61. As is well known, groundwater is suffering a silent but continuous depletion worldwide, both in quantity and quality. The Commission draft articles are a step forward towards an integrated water resources management. They underpin the decision taken by Member States at the World Summit on Sustainable Development in 2002 with a view to:

> "Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels to:
>
> (a) Develop and implement national/regional strategies, plans and programs with regard to integrated river basin, watershed and groundwater management and

introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water."[2]

62. Switzerland is party to the 1992 ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Swiss legislation on the subject includes the Federal Law of 24 January 1991 on Water Protection (SR 814.20), the Federal Law of 21 June 1991 on Flood Protection (SR 721.100) and the Federal Law of 7 October 1983 relating to the Protection of the Environment (SR 814.01).

63. The Commission draft articles are in line with Swiss legislation. Not all of the draft articles are equally relevant to the situation in Switzerland, however. Some address hydro-geological conditions rarely encountered in Switzerland, such as management of fossil groundwater or weakly provisioned aquifers under precarious conditions in terms of aquifer recharge. In Switzerland, the aspects of quality of transboundary water are also very important (draft article 11). In addition, large aquifers are closely connected with the surface water of rivers such as the Rhine or the Arve.[3] This aspect is relatively little developed in the draft articles.

B. Specific comments on the draft articles

Title

Iraq

64. The word "shared" should be added to the title of the draft articles, which would then read "Draft articles on the law of shared transboundary aquifers". The same should apply throughout the draft articles.

Draft article 1
Scope

Brazil

65. Brazil has reservations regarding draft article 1 (b). The rather broad wording could end up imposing unnecessary limitations on activities conducted in the surroundings of an aquifer. The current wording may encompass in the scope of the draft articles issues like agriculture and the use of pesticides, urban draining systems and waste deposits, for instance, which would go far beyond the initial scope of the draft articles. The aforementioned provision may also be problematic as regards

[2] Johannesburg Plan of Implementation, para. 26.

[3] Transboundary aquifers of Switzerland include: the alluvial aquifer of the Rhine in the upstream part of Lake Constance between Switzerland, Liechtenstein and Austria; the alluvial aquifer in the downstream part of the Lake Constance between Switzerland and Germany; the alluvial aquifer of the Arve between Switzerland and France. The first agreement to regulate the use of the small transboundary aquifer between Switzerland and France dates back to 1978. The exploitation of pumping stations on both sides and the functioning of an artificial recharge station using water from the river Arve were regulated in order to counter its overexploitation in the 1970s. This aquifer supplies about 20% of the drinking water of the canton of Geneva (estimated reserve of 17 mio m^3). Since 1 January 2008, the agreement has been replaced by a convention between the canton of Geneva and the relevant French cities.

the activities of less likely impact, since there is no guarantee of direct link between the activity and the impact. Also problematic is the use of the word "impact" (without the qualifier "significant") instead of the word "harm", which has a more specific meaning and is used in different provisions in Parts II and III. The use of the expression "significant harm" instead of "impact" would be a way to address somehow Brazil's concern on this point. However, Brazil would prefer the outright exclusion of this clause, as provisions (a) and (c) already define appropriately the scope of the draft articles.

66. In respect of the commentary to draft article 1, Brazil expresses its strong reservation to the reference made in paragraph (2) to the Convention on the Law of the Non-navigational Uses of International Watercourses (1997) as regards the application of the articles of that Convention to transboundary aquifers connected to international watercourses. Brazil is not a party to the 1997 Convention, which has not entered into force due to lack of consensus in relation to many of its provisions. Furthermore, Brazil cannot accept the use of the expression "international waters" to refer to transboundary waters, as it might put into question the State sovereignty over water resources located in its territory.

Israel

67. Israel supports the use of the word "utilization" in draft article l (a). Israel believes that the use of the term "other activities" in draft article l (b) is overly broad and could lead to misinterpretation.

68. Israel recommends that it be explored whether certain provisions of draft article l(c) are already covered by the 1997 Convention on on the Law of the Non-Navigational Uses of International Watercourses, as well as the nature of the relationship between the draft articles and the Convention.

The Netherlands

69. The Commission notes in paragraph (2) of the commentary to draft article 1 that the dual application of the provisions of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses and the draft articles to aquifers and aquifer systems that are hydraulically connected to international watercourses would not in principle cause any problem, as these legal regimes are not expected to be in conflict with each other. However, the Netherlands would like to note that the principle of equitable and reasonable utilization has been redefined in order to apply it to non-renewable resources. The Netherlands agrees with the application of the principle of maximalization of long-term benefits in the case of the use of non-renewable resources as opposed to the application of the principle of sustainable utilization in the case of the use of renewable resources. Yet, it is in this regard that the Netherlands discerns a possible tension between the two legal regimes. It believes that further clarification is required to explain how the application of two different definitions of the same principle to aquifers that are hydraulically connected to international watercourses can be reconciled.

Saudi Arabia

70. Saudi Arabia proposes that the chapeau of this draft article be modified to read: "The goal of the present draft articles is to regulate the following:"

71. It is also proposed that the draft article should include provisions regarding priority with regard to the utilization of transboundary groundwaters. Accordingly, a new subparagraph (d) should be added and should read:

"Setting priorities in respect of the utilization of shared groundwaters and aquifer systems".

Draft article 2
Use of terms

Brazil

72. The concept of aquifers should be improved in order to address the possibility of extraction, as there are rocks containing water which cannot be extracted and thus do not constitute an aquifer in the technical sense. An aquifer is not necessarily supported by a less permeable formation (for instance, a fractured aquifer supported by a porous one is also an aquifer). Thus, Brazil suggests the following wording for draft article 2 (a):

"Aquifer means an underground permeable geological formation, which contains water and from which it is possible to extract significant quantities of water".

Colombia

73. In view of the frequent use of the phrase "equitable and reasonable use" of resources in various international contexts, Colombia takes the view that the phrase should be defined and its definition incorporated into the draft articles.

Germany

74. The phrase "underlain by a less permeable layer" in subparagraph (a) could be deleted as it is unnecessary and a source of potential confusion.

75. The following should be added to subparagraph (f):

"[...] by runoff on the ground and infiltration or direct percolation through soil".

76. It would be better to use "quantity or quality" than "quantity and quality" in paragraph (4) of the commentary to draft article 2 (third last sentence). Even the transfer of small quantities of water can have a significant effect on the receiving aquifer depending on the chemical composition, so the term aquifer system would have to be used.

Hungary

77. The expression "catchment area" in the definition of recharge zone in subparagraph (f) is more commonly used in connection with surface waters. Furthermore, not only the groundwater recharge zone can be underneath, but the surface of a discharge zone also belongs to the catchment area of

rainfall. In other words, the recharge zone is only that part of a catchment area, where infiltration through the soil is significant and/or surface water contributes directly to the groundwater.

Hungary therefore proposes the following wording for subparagraph (f):

> "'Recharge zone' means the zone which contributes water to an aquifer, including [consisting of] that part of the catchment area of rainfall where water flows to an aquifer by runoff on the ground and/or infiltration through soil."

78. The definition of discharge zone in subparagraph (g) covers only situations where there is actually some form of surface water. In the understanding of Hungary, a discharge zone can exist without water present on the surface. In many areas the upward flow system keeps the groundwater table permanently close to the surface and they are definitely considered discharge zones. Considering draft article 10 on recharge and discharge zones definitions should aim at the particular characteristics which help to make distinct certain areas within the total area above the transboundary aquifer.

Hungary therefore proposes the following wording for subparagraph (g):

> "'Discharge zone' means the zone where water originating from an aquifer flows to its outlets, such as watercourse, lake, oasis, wetland and ocean, or the upward flow system keeps the groundwater table permanently close to the surface."

Iraq

79. In subparagraph (f), the phrase "and other water sources" should be added. The subparagraph would then read as follows:

> "'Recharge zone' means the zone which contributes water to an aquifer, consisting of the catchment area of rainfall water and other water sources and the area where such water flows to an aquifer by runoff on the ground and infiltration through soil".

The Netherlands

80. Although the intention to apply the adjective "transboundary" to both "aquifer" and "aquifer system" in the definition of "aquifer State" in subparagraph (d) may be clear for some, it would avoid confusion for others if the adjective is repeated before "aquifer system" in this paragraph, as well as other parts of the draft articles.

81. It is the understanding of the Netherlands that aquifers, especially in the form of confined ground waters, may also be found in areas under the jurisdiction or control of States outside their territory. When the Commission considers the application of the draft articles to all shared natural resources during the second reading of the draft articles, it will, in the view of the Netherlands, become inevitable to revisit the definition of "aquifer State" and to address the application of the draft articles to shared natural resources that can be found under the continental shelves of States, notably oil and gas.

Portugal

82. Portugal views with some concern the lack of definition of "significant harm" (draft article 6) and of "significant adverse effect" (draft article 14). There is a danger in leaving such subjective terms to be interpreted by States on a case-by-case basis, in accordance with their own interests of the moment. In fact, it may create an unjustified disadvantage to weaker States. It makes it harder to make a distinction, as well, between the two terms.

83. Furthermore, one should also ponder on the benefit of defining the term "ecosystem" (draft article 9) as done in the draft principles on the allocation of loss in case transboundary harm arising out of hazardous activities.

84. The term "adversely affects, to a significant extent" (draft article 19) suffers an equal problem of lack of clarity, raising doubts as how one must assess the extent of such effects.

85. Being part of fundamental provisions of the draft articles, the lack of a uniform and clear understanding of those terms may lead to diverse interpretations and even to non-compliance of the obligations of the States on this matter. This being so, it may be a good option to define them in draft article 2 regarding the use of terms.

Saudi Arabia

86. Subparagraph (a) should be modified to read:

> "'Aquifer' means a permeable underground geological formation bearing confined or unconfined water underlain or overlain by a less permeable layer and the water contained in the saturated zone of the formation".

Switzerland

87. In draft article 2 and in subsequent draft articles, the word "recharge" in English has been translated into "realimentation" in French. Switzerland believes it would be appropriate to keep the word "recharge" also in the French version, as this has a closer connotation to human activities (artificial recharge).

88. In draft article 2 and in subsequent draft articles, the term "zone de deversement" (in English: "discharge zone") might more appropriately be called "zone d'exutoire" in French.

Draft article 3
Sovereignty of aquifer States

Austria

89. Austria had once suggested moving the reference to sovereignty to the preamble. However, in light of the present draft articles it seems preferable to keep the text of draft article 3 in order to establish a certain balance of the rights and obligations, emphasizing that sovereignty is the

fundamental rule on which the entirety of the draft articles is based so that the latter have to be interpreted accordingly.

Brazil

90. It is fundamental to keep the language in draft article 3 that reaffirms the sovereignty of the State over the aquifers located in its territory. Notwithstanding, the last part of the draft article should be modified in order to affirm that sovereignty shall be exercised in conformity with international law and not "in accordance with the present draft articles". It is important to add, after the reference to international law, the following words: "as referred to, inter alia, by United Nations General Assembly resolution 1803 (XVII) of 14 December 1962".

Cuba

91. The last sentence of draft article 3 should be deleted, taking into account that a State would have sovereignty over aquifers within its territory and would therefore be free to set policy in respect of any given aquifer.

Israel

92. Israel welcomes the emphasis the draft articles give to the issue of sovereignty over transboundary aquifers. However, Israel does not support the making of exceptions to accepted customary international law on this issue. Therefore, Israel suggests adding the words "international law and" after the word "with" to draft article 3.

Portugal

93. Portugal believes that it is pertinent to reflect upon whether or not to shift towards a more actual and mitigated doctrine of sovereignty . Without putting in doubt the State's sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory, it may be worthwhile to consider emphasizing, as a general rule, the principle of cooperation between States.

Turkey

94. An explicit reference to the sovereignty of States over the natural resources within their territories is preferred. This reference is particularly important in case that dialogue or cooperation among the riparian States of the transboundary aquifer is not at the level which enables joint equitable and reasonable utilization. Therefore, States should be able to exercise full sovereign rights to exploit, develop and manage the water resources located within their land territories according to the present draft articles. In this context, the proposed version of the article 3 is as follows.

> "Each aquifer State shall exercise its inherent sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory for the purposes provided in article 3 in accordance with the present draft articles."

Draft article 4
Equitable and reasonable utilization

Austria

95. Draft article 4 has to be seen in close context with draft article 5 on "factors relevant to equitable and reasonable utilization". However, certain concepts used in these draft articles need to be clarified:

96. The concept of "accrued benefits" introduced in subparagraph (a) raises certain doubts. First, the enumeration of the factors relevant to equitable and reasonable utilization in draft article 5 that elaborates draft article 4 does not respect the fundamental rule embodied in draft article 3 as it refers only, inter alia, to the contribution to the formation and recharge of the aquifer or aquifer system. In the light of draft article 3, this element must being inserted in the draft article so that draft article 4, paragraph (a) should read:

> (a) "They shall utilize the transboundary aquifer or aquifer system in a manner that is consistent with their share of the aquifer and its recharge."

Secondly, as the commentary indicates, no convincing reason is provided why "utilization" should be replaced by "accrued benefits", in particular as the criteria set in draft article 5 refer to "utilization". Although the commentary to subparagraphs (b) to (d) explains in a very clear and sophisticated manner the difficulties faced when determining "equitable and reasonable utilization" of transboundary aquifers, in particular when dealing with recharging and non-recharging aquifers, it could be accepted that a reference to such kind of use is made so that the full text of draft drticle 4 paragraph (a) should read:

> (a) "They shall utilize the transboundary aquifer or aquifer system in a manner that is consistent with their share of the aquifer and its recharge as well as with the equitable and reasonable utilization."

97. The concept of "maximizing the long-term benefits" would need to be further explored if the draft articles were to be transformed into an international legally binding instrument as it includes many vague issues such as "wasteful utilization". In the case of a transboundary aquifer, it is in particular unclear who should determine the meaning of "maximizing the long-term benefits" in a particular case. It must be taken into account that it is extremely difficult to apply the concept of "maximizing benefit" to a transboundary context as free transfer of benefits would be required for this purpose, which is difficult to achieve in a transboundary context. In addition, it cannot be excluded that the various aquifer States would come to different conclusions regarding the evaluation of the benefits since these benefits are often evaluated rather by political then by purely economic and ecological criteria.

Cuba

98. Cuba proposes adding the word "generations" in subparagraph (c). The text would then read:

"They shall establish individually or jointly an overall utilization plan, taking into account the needs of present and future generations, and alternative water sources for the aquifer States."

Germany

99. The following should be added to paragraph (1) of the commentary to draft article 4:

"The use of an aquifer's geological formation might be more important in the future, especially regarding the sequestration of carbon dioxide in deep aquifers. Other examples for the utilization of the geological formation include the disposal of brines from mining activities or the disposal of nuclear waste which might lead to deteriorating water quality."

Iraq

100. Subparagraph (b) should be merged with subparagraph (a), and should read as follows:

"They shall utilize the shared transboundary aquifer or aquifer system in an equitable and reasonable manner that maximizes the long-term benefits derived from the use of water contained therein".

101. In subparagraph (c), the words "and alternative water sources for" should be omitted.

102. In subparagraph (d), the word "unrecharged" should be added. The subparagraph would then read:

"They shall not utilize a recharging or unrecharged transboundary aquifer, or a recharging or unrecharged transboundary aquifer system, at a level that would prevent continuance of its effective functioning".

Israel

103. Israel believes that the draft articles 4 to 6 have successfully identified some important general principles that have gained the recognition of States, namely: the principle of equitable and reasonable utilization of aquifers and the obligation not to cause significant harm to other aquifer States. Having said that, Israel suggests adopting an approach that would treat these principles on equal footing, with no one principle prevailing over the other.

104. In light of the foregoing, Israel would like to propose adding in the chapeau of draft article 4 after the word "utilization", the following words: "with due regard to the avoidance of significant harm to other aquifer States".

105. Israel believes that the obligation to develop an "overall utilization plan", as stipulated in subparagraph (c), requires further consideration, as, in its opinion, the proposed subparagraph sets forth an undue burden on States. Moreover, by allowing individual establishment of utilization plans,

rather than calling for collaborative efforts only, the obligation to cooperate is subverted. Therefore the words "individually or" should be deleted from subparagraph (c).

106. Israel wishes to voice its support for the principle of sustainability and welcomes its endorsement in subparagraph (d). Nevertheless, Israel recommends that the term "optimal and sustainable use" be used instead, as such term is similarly used in article 5 of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses.

Poland

107. Following the suggestion to add the principle of sustainable development to Part II (see general comments above), an appropriate reference should be made in draft article 4.

Saudi Arabia

108. A specific definition for equitable and reasonable utilization should be set forth. Subparagraph (c) leaves the door open to change and unpredictability because the needs of States vary. It would be advisable to have firm rules in this regard. Subparagraph (d) is unclear and may require some clarification or redrafting.

109. A new subparagraph (e) should be added and should read:

> "No State may assign, lease or sell, in whole or in part, to any other State, whether an aquifer State or a non-aquifer State, its right to utilize a transboundary aquifer".

Switzerland

110. Subparagraph (c) provides that aquifer States shall establish "*individually* or jointly" an overall utilization plan. Switzerland believes that a utilization plan for a transboundary aquifer should not be established *individually.* As it is rightly said in draft article 13, a "*joint* management" of aquifers is needed. This would be difficult to achieve if there were two (or more) contradictory utilization plans.

111. In subparagraph (d), the expression "effective functioning" is not clear. The idea that would need to be conveyed is that, over time, the net output should not be higher than the input.

Turkey

112. With regard to subparagraph (c), integrated water resources management is the basic concept for the utilization of surface and groundwater resources. It takes into account hydrological, social, economic and environmental aspects and looks for what is useful, sustainable, feasible, equitable and environmentally friendly. However, it does not consider the exploitation of water resources in a basin. Moreover, neither groundwater resources nor surface water resources could be treated as alternative to each other. They are rather complementary. Therefore, in establishing overall utilization plans, "alternative water resources" should not be an element to be taken into account as they are already a part of the plan. So, the phrase "*alternative water resources*" ought to be deleted.

Draft article 5
Factors relevant to equitable and reasonable utilization

Brazil

113. In paragraph 1, Brazil suggests the inclusion of an additional item related to the use of the geothermal potential. Such a potential is still underused by the majority of the developing and least developed countries. The new item could have the following wording:

> "the utilization of geothermal potential, whenever available".

114. Draft article 5 establishes relevant factors for the determination of the concept of "equitable and reasonable utilization". Brazil particularly appreciates the general principle contained in the last sentence of paragraph 2: "However, in weighing different utilizations of a transboundary aquifer or aquifer system, special regard shall be given to vital human needs."

Cuba

115. With respect to the reference that "special regard shall be given to vital human needs" in paragraph 2, Cuba wishes to draw attention to the possibility that efforts to meet human needs could jeopardize the natural functioning of the ecosystem in the area of the aquifer to be tapped, even where such utilization is justified on the basis of equity.

Germany

116. Paragraph (2) of the commentary to draft article 5 reads:

> "System variables relate to aquifer conductivity (permeability) and storability."

Here, "hydraulic conductivity" should be listed after "aquifer conductivity (permeability)" and "storability" replaced by "storativity".

117. The sentence in the same paragraph (2) reading: "They are groundwater level distribution and water characteristics such as temperature, hardness" should be amended to read: *"... such as thickness of the aquifer, temperature, hardness"*.

118. Paragraph (5) of the commentary to draft article 5 reads:

> "In determining 'vital human needs', special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation."

In many arid and semi-arid countries, groundwater-based agriculture is the main reason for the massive over-use of groundwater reserves. With the definition used, too much scope is given for over-use under the pretext of food security. Most agriculture in these countries is today for export purposes, not for food security. Food autarky is unrealistic in almost all arid and semi-arid countries.

Therefore Germany recommends deleting this definition and using the narrower definition provided by the International Law Association:

> "'Vital human needs' means waters used for immediate human survival, including drinking, cooking, and sanitary needs, as well as water needed for the immediate sustenance of a household".[4]

Iraq

119. The phrase "through bilateral or multilateral agreements" should be added to the chapeau, which would then read:

> "Utilization of a transboundary aquifer or aquifer system in an equitable and reasonable manner within the meaning of draft article 4, through bilateral or multilateral agreements, requires taking into account all relevant factors, including [...]".

120. In subparagraph (g), the word "other" should be added in order to make the text more comprehensive where it refers to alternatives to a particular utilization. The subparagraph would then read:

> "The availability of alternatives to a particular existing or planned utilization of the aquifer or other aquifer system".

Israel

121. It is important to avoid deviating from the content of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses insofar as the formulation of the factors relevant to determining what constitutes equitable and reasonable utilization are concerned, in order to preserve a regime of legal uniformity and consistency, as recommended by Israel in its remarks delivered to the Sixth Committee on 2 November 2007. In this context, Israel would like to emphasize two such deviations found in the draft articles:

> (a) Subparagraph (d) introduces a new factor of "the contribution to the formation and recharge of the aquifer or aquifer system". It is the view of Israel that in applying the principle of equitable and reasonable utilization, the needs of the neighbouring communities are what matter most. There is no evidence to support the contrary proposition that waters be allocated, for example, according to the amount of rain that falls on the respective feeding areas in the territory of each party.
>
> Having said that, in light of the currently available technology, which allows the artificial injection of water into aquifers, there may be some merit in advancing the contention that a State which artificially contributes water to an aquifer should be rewarded for its efforts with a

[4]Art. 3 (20) of the Berlin Rules on Water Resources of the International Law Association, (2004).

greater apportionment of the water from that aquifer. Such a rule would serve to provide an incentive to States to actively recharge their aquifers. This, of course, should be conditioned upon the fact that the artificially injected water be of accepted quality, so as to avoid pollution. In short, Israel believes that subparagraph (d) in its present form gives the impression that natural contributions are a relevant factor in determining equitable and reasonable utilization, in contradiction to customary international law. Hence, this subparagraph should be deleted or corrected so as to refer to artificial contributions of clean water to aquifers only.

(b) Subparagraph (g) lists "The availability of alternatives to a particular existing and planned utilization of the aquifer or aquifer system". While alternative sources of water are no doubt a relevant factor, Israel believes that their mere availability is not enough, and that their feasibility must be taken into account as well. Israel suggests returning to the original formulation in article 6(g) of the 1997 Convention on Non-navigational Uses of International Water Courses by adding the words "of comparable value" after "the availability of alternatives".

The Netherlands

122. Pursuant to draft article 1, the present draft articles cover, in addition to the utilization of transboundary aquifers and transboundary aquifer systems, other activities that have or are likely to have an impact upon those aquifers or aquifer systems. In paragraph (6) of the commentary to draft article 1, it is noted that it is necessary to regulate such other activities in order to properly manage aquifers. The Netherlands agrees that such activities should be subject to the present draft articles and would have expected that this would have implications for the identification of factors relevant to the equitable and reasonable utilization of aquifers and aquifer systems. Accordingly, the Netherlands would like to suggest that any existing and planned other such activities as well as their effects should be added to subparagraph (d) of draft article 5 as an additional factor relevant to the equitable and reasonable utilization of aquifers and aquifer systems.

Poland

123. It is proposed that in subparagraph (f) the words "actual and potential" be inserted at the beginning of this provision.

124. Following the suggestion to add the principle of sustainable development to Part II (see general comments above), an appropriate reference should be made in draft article 5.

Saudi Arabia

125. Subparagraph (c) should be amended to read:

"The compatibility of a given mode of utilization with the natural characteristics of the aquifer or aquifer system within each State".

A new subparagraph (e) bis should be added that takes into consideration the area, extent, thickness and characteristics of the aquifer and the direction in which groundwaters flow.

126. Paragraph (3) of the commentary to draft article 5 provides, inter alia, "[b]eside feasibility and sustainability, the viability of alternatives plays an important role in the analysis. For example, a sustainable alternative could be considered as preferable in terms of aquifer recharge and discharge ratio, but less viable than a controlled depletion alternative." The first two lines of this paragraph are unclear.

127. The sentence beginning with "For instance ..." in paragraph (4) of the commentary to draft article 5 should read:

> "There are various manners in which lakes receive groundwater inflow. Some receive groundwater inflow throughout their entire bed. Some receive groundwater inflow through seepage throughout their entire bed. Some receive groundwater inflow through part of their bed, while the rest of the channel receives inflows through seepage."

Switzerland

128. Subparagraph (d) on the "contribution to the formation" of the aquifer (in French "contribution a la formation") does not seem to be a relevant factor to equitable and reasonable utilization of the aquifer or aquifer system, as the aquifer was formed some million years ago. The term "transformation" instead of "formation" in both the French and the English versions may be more suitable.

129. In subparagraph (i), the reference to the "related ecosystem" is unclear. It would be advisable to repeat the formulation used in draft article 9 ("ecosystems within, or dependent upon their transboundary aquifers or aquifer systems"/"écosystèmes qui sont situés à l'interieur, ou sont tributaries, de leurs aquifères ou systèmes aquifères transfrontières").

Turkey

130. The rationale with regard to subparagraph (c) of draft article 4 applies to subparagraph (g) which should be deleted.

Draft article 6
Obligation not to cause significant harm to other aquifer States

Brazil

131. Brazil supports the use of the term "significant harm". "Significant harm", as referred to in paragraphs 1 and 2, must be understood as the harm caused through the aquifer. Brazil underlines the importance of the understanding already expressed by the Commission that the obligation to take appropriate measures in order to avoid significant harm constitutes an obligation of "conduct" and not one of "result".

132. With regard to the utilization of the term "activities that have or are likely to have an impact", its context is different from the one observed in draft article 1 (b). For this reason, the expression could be maintained in the text if the word "impact" is replaced by "significant impact". The

Commission should find proper language to make it clearer that the obligation to take all measures to prevent significant harm is applicable only to activities of which it is reasonable to believe that States are aware or with respect to activities of which States are aware to have real or potential impact on the aquifers.

Colombia

133. The commentary deals with the use of the term "significant", since the reference to significant harm gives rise to the presumption that there may also be insignificant harm. Taking the view that neither of those adjectives is suitable to describe harm, Colombia proposes that only the word "harm" should be used, without any qualification. Colombia proposes amending all the draft articles in order to delete the term "significant".

Cuba

134. Cuba believes that the phrase "prevent the causing of [...] harm" used in paragraph 2 should be replaced by "avoid the causing of [...] harm", as the object in environmental matters is not to prevent, but rather to avoid, causing harm in all its forms.

Finland

135. The environmental perspectives should be given more weight in the draft articles. Article 6 introduces the threshold of "significant harm" which is, considering the vulnerability of groundwaters, rather high.

Hungary

136. The Commission decided to eliminate the provision concerning compensation when significant harm is caused even though all appropriate measures were taken to prevent that from happening. Hungary believes that in view of the recent development in the field of international environmental law, in every case when significant harm is caused by an aquifer State to another aquifer State, adequate compensation should be provided in accordance with "the polluter pays" principle. Hungary would like to point out that under this principle, States have an objective responsibility, that is to say, if they cause significant harm, they have to pay compensation regardless whether they have taken all appropriate measures to prevent the harm or not. This principle and the obligation deriving from it are both well established in other instruments of international law. Hungary is of the view that a reference to this principle and to the obligation should have been included in the draft in order to give a clear indication to the specific regime of international law that shall apply. In the commentary of this article, it is mentioned that this issue is covered by other rules of international law, including the draft principles on liability. This reasoning might not be appropriate, since international liability in general is based on imputability, however in the field of international environmental law, there are exceptions, liability may be established on the pure basis of causing harm.

Israel

137. Israel recommends introducing a threshold higher than that of taking "all appropriate measures"and eliminating the word "significant" in paragraph 1. Such recommendation is consistent

with Israel's comments above, as well as the remarks Israel made in its address to the Sixth Committee on 2 November 2007, and takes into account the susceptibility of aquifers.

138. Furthermore, Israel would like to suggest the addition of concrete provisions that would elaborate upon the obligation set forth in draft article 6. For example, it might be worth considering the adoption of a more detailed list of obligations, such as those listed in article 41 of the Berlin Rules of 2004. Furthermore, Israel suggests that the precautionary principle, which many now consider to be a customary rule of international environmental law, be noted as well.

The Netherlands

139. Paragraph 1 addresses aspects concerning prevention which, in case of non-compliance, could entail State responsibility. This has, in the view of the Netherlands, correctly been presented as a duty of due diligence. Paragraph 3 deals with the eventuality where significant harm is caused inspite of compliance with the duty of due diligence and, hence, with paragraph 1. The Netherlands is not convinced by the arguments advanced in paragraph (6) of the commentary to delete in this paragraph the obligation to discuss the question of compensation if significant harm is caused in spite of compliance with the duty of diligence. Although international law on international liability for the injurious consequences arising out of acts not prohibited by international law has further developed in recent years, including through the elaboration of the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities, the Netherlands believes that these developments do not justify the deletion in this paragraph of the obligation to discuss the question of compensation if significant harm is caused in spite of compliance with the duty of due diligence. In particular, the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities only apply to hazardous activities relating to use of aquifers and aquifer systems and do not cover non-hazardous activities. Furthermore, the cross reference in the draft article on the obligation not to cause significant harm to the draft article on equitable and reasonable utilization links the question of compensation to the interplay of these two draft articles. In specific circumstances, the result may be that it is not equitable or reasonable to require the payment of compensation for significant harm if the duty of due diligence is complied with.

140. In paragraph 4 of the general commentary, it is noted that some draft articles would have to impose obligations on States which do not share the transboundary aquifer in question in order for the draft articles to be effective. The Netherlands agrees with this approach and notes that this is particularly relevant as a result of the application of the present draft articles to activities other than the utilization of transboundary aquifers. Accordingly, the Netherlands believes that the subject of paragraph 2 of draft article 6 should be all States rather than aquifer States. Activities carried out in a non-aquifer State may have an impact on a transboundary aquifer situated in other States and, hence, cause significant harm. Such broadening of the scope of this draft article would, furthermore, be in line with draft article 14 on planned activities which applies to all States and not only to aquifer States. The arguments in paragraph (1) of the commentary to draft article 14 to broaden the scope of that draft article to all States apply, in the view of the Netherlands, mutatis mutandis, to paragraph 2 of draft article 6 and, furthermore, to draft articles 9 and 11.

Saudi Arabia

141. Draft article 6 should include an explicit provision on irreversible harm, the compensatory obligation of the State causing the harm and the method of compensation, and should designate the competent authority therefor.

Turkey

142. The debate on the interpretation of "significant harm" and the definition of appropriate thresholds of significant harm continues. Although the concept "to prevent causing significant harm" is used in most international codes, it is vague, relative and difficult to apply. Furthermore, "appropriate measures to prevent causing significant harm" are hard to set without certain thresholds.

143. On the other hand, in groundwater resources, even exploitation or small amount of contamination could be interpreted as significant harm. Therefore, this draft article in general is ambitious and should be modified. The proposed text is as follows.

1. Aquifer States shall, in utilizing a transboundary aquifer or aquifer system in their territories, pay due diligence to prevent the causing of significant harm to other aquifer States.

2. Aquifer States shall, in undertaking activities other than utilization of a transboundary aquifer or aquifer system that have or likely to have, an impact on that transboundary aquifer or aquifer system shall refrain from causing significant harm through that aquifer or aquifer system to other aquifer States.

3. Where significant harm nevertheless is caused to another aquifer State, the aquifer States whose activities cause such harm shall try, in consultation with the affected State, to eliminate or mitigate such harm, having due regard for the provisions of draft articles 4 and 5.

Draft article 7
General obligation to cooperate

Austria

144. Austria supports the concept of a general obligation of aquifer States to cooperate. However, as currently drafted, the inclusion of the words "mutual benefit" is unclear. "Mutual benefit" is a goal to be achieved through cooperation, but it remains doubtful whether it is to be listed as a basic principle.

Brazil

145. Brazil supports the wording of draft article 7 and the principles contained therein, taking them as a good basis for cooperation. These principles, including the ones related to sovereign equality and territorial integrity, establish along with other principles a balanced approach in order to facilitate cooperation among aquifer States, based on good faith and mutual respect.

Czech Republic

146. The term "good faith" in draft article 7 raises fears that States may, in good faith, take measures that were not negotiated with the other party and that could have adverse effects on the needs of the other party.

147. Pursuant to paragraph 2, aquifer States should establish joint mechanisms of cooperation. In the opinion of the Czech Republic, it would be better to use "shall" instead of "should" as this would make the States to establish joint mechanisms in all cases.

Germany

148. The following should be added to paragraph 2:

> "Aquifer States shall integrate cooperation on groundwater into existing mechanisms of cooperation on surface water where appropriate."

The establishment of new independent cooperation mechanisms exclusively for groundwater is unrealistic in many regions in the medium term. Where aquifers are not in hydraulic contact with surface water, separate cooperation on groundwater is desirable. It should always be examined therefore whether existing institutional structures for transboundary water cooperation can be extended to incorporate groundwater before creating new structures.

Israel

149. Israel would like to express its support for paragraph (2) of draft article 7 and proposes strengthening the obligation to establish joint mechanisms of cooperation by changing the word "should" to "shall". It might be further strengthened by detailing which issues shall be subject to the joint mechanisms of cooperation, and referencing the appropriate draft articles, such as exchange of data and information (draft article 8), monitoring (draft article 12) and management (draft article 13).

Poland

150. In view of the importance of cooperation for the protection, preservation and management of aquifers and aquifers systems, the forms of cooperation should be elaborated in more detail. Paragraph 2 of this draft article might then read as follows:

> "2. For the purpose of paragraph 1 aquifer States should establish joint mechanisms of cooperation concerning, inter alia:
>
> (a) management;
>
> (b) monitoring and assessment;
>
> (c) databases;
>
> (d) coordinated communication, warning, and alarm systems;
>
> (e) research and development; and

(f) mutual assistance".

Saudi Arabia

151. More detail is needed in respect of "sovereign equality" and "territorial integrity" because groundwaters are different from surface waters (e.g. rivers) inasmuch as it is difficult to apply such concepts to groundwaters.

Draft article 8
Regular exchange of data and information

Austria

152. Similar provisions on "regular exchange of data and information" as contained in draft article 8 are found in many treaties. Austria supports the inclusion of such a provision, as international practice underlines the importance of a regular exchange of data and information. As regards the current text, Austria would like to point out two issues:

(a) The last sentence of paragraph 2 should read:

"They shall take such action individually or, where appropriate, jointly and together with or through international organisations."

(b) As regards the term "best efforts" in paragraph 4, Austria understands this as a provision expressing that a State should endeavour to provide the data and information, but not as a strict obligation to provide them.

Brazil

153. Draft articles 8 and 12 make references to measures to be taken by one or more States with the assistance of international organizations "where appropriate". Draft article 8 does not specify who shall determine which situations are considered "appropriate" for the assistance of international organizations. In the view of Brazil, it is important to clarify in the draft articles that only States are entitled to such a right. The main practical difficulty with regard to the exchange of data and information is the lack of standardization of databases, parameters and information systems. For that reason, it would be useful to add in draft article 8 a specific reference to the importance of a "collective effort to integrate and make compatible, whenever possible, the existing databases, taking into consideration regional contexts and experiences". In South America, for instance, the Brazilian Geological Service has entered into agreements with many countries in order to make available an Information System of Groundwaters (SIAGAS).

Colombia

154. With a view to ensuring that States with shared aquifers establish a monitoring and control network, it is proposed that paragraph 4 should be worded as follows:

"States sharing aquifers shall, where appropriate, employ their best efforts to collect and process data and information in a manner that facilitates their utilization by the other States to which such data and information are communicated, with a view to establishing a joint network for environmental monitoring and control of aquifers".

Switzerland

155. Draft article 8 should encourage States more clearly to establish inventories of aquifers. Many States are still unaware of the extent, quality and quantity of their aquifers. In addition, draft article 8 should refer back to the draft article 4 (c). Indeed, the quality of any utilization plan depends on the availability of the relevant data.

Draft article 9
Protection and preservation of ecosystems

Israel

156. Due to the increasing concerns of Israel and many other countries about the environmental effects of misusing aquifers and aquifer systems, Israel would like to commend the Commission for drafting articles 9 and 11, which oblige States to protect and preserve aquifers and the respective ecosystems in which they function.

The Netherlands

157. In paragraph (4) of the commentary to draft article 9, the Commission notes that the obligation of States enshrined in this draft article is limited to the protection of "relevant ecosystems". The wording of the draft article suggests that the relevant ecosystems are: (a) ecosystems within transboundary aquifers; and (b) ecosystems dependent upon transboundary aquifers. The Netherlands wonders whether the relevant ecosystems have been identified correctly. In particular, the Netherlands does not believe that the draft articles should aim at the protection and preservation of ecosystems dependent upon transboundary aquifers (category (b)) as the protection and preservation of these ecosystems will not have an impact on transboundary aquifers. It would rather seem that the reverse situation needs to be addressed. Accordingly, the draft articles should aim at the protection and preservation of ecosystems upon which transboundary aquifers are dependent, such as the ecosystems of recharge zones. Furthermore, it may be useful to explain in the commentary that the obligation enshrined in this draft article is an obligation of due diligence as is noted in the paragraph (2) of commentary to draft article 11. Finally, the Netherlands believes that the scope of this draft article should be broadened from aquifer States to all States.

Turkey

158. Even though protection and preservation of ecosystems are highly important in management of transboundary groundwater resources, special regard should be given to basic human water needs. Accordingly, the phrase "whilst giving special regard to basic human needs" should be added to the end of this draft article.

Draft article 10
Recharge and discharge zones

Austria

159. Draft article 10 is an evolution of international law in the field of groundwater law. The commentary explains the necessity to involve also the States in whose territory a recharge or discharge zone is located. Austria agrees with this intention. As regards the establishment of an obligation for those States to cooperate, it remains doubtful whether this is feasible, taking into account the complexity of transboundary aquifers and aquifer systems. In Austria's view the obligation should be reversed so that it should be an obligation for the aquifer States to seek cooperation with States in whose territory a recharge or discharge zone is located.

Brazil

160. Part III of the draft articles sets forth important obligations to aquifer States. Paragraph 2 of draft article 10 may also establish an obligation to non-aquifer States. Brazil supports, in general terms, the content and the balanced structure of the present Part, which is based on previously adopted universal and regional legal instruments. However, it is necessary to be more precise on certain aspects of draft article 10, as there is a debate about what really constitutes a recharge zone. Attempts should be made to avoid the risk of getting lost in the identification and treatment of far too large areas. The identification of the "most significant" recharge and discharge areas, an expression that should be added to draft article 10, would already demand a considerable effort, but it would contribute to the sustainable management of groundwaters.

Israel

161. Israel recommends strengthening the obligation this draft article places on States. Therefore, Israel suggests that the Commission consider adopting stronger language than is currently proposed in paragraph 1, by replacing the words, "minimize detrimental impacts" with language that would serve to ensure the protection of aquifers and aquifer systems.

162. Israel believes that paragraph 2 does not afford adequate protection to aquifer States from the potential abuse of recharge zones located in non-aquifer States. Instead of providing a general obligation of cooperation to protect the aquifer or aquifer system, non-aquifer States in which a recharge zone is located should be responsible for all of the specific obligations related to protecting aquifers set forth in draft articles 6 and 11.

Poland

163. It is proposed that draft article 10 also refers to eliminating any detrimental impacts on the recharge and discharge processes, to the extent practicable. It would read:

> "1. Aquifer States shall identify recharge and discharge zones of their transboundary aquifer or aquifer systems and, within these zones, shall take special measures to prevent, minimize, control and, to the extent practicable, eliminate detrimental impacts on the recharge and discharge processes".

Draft article 11
Prevention, reduction and control of pollution

Austria

164. Austria firmly supports the inclusion of the "precautionary approach", but would like to see the second sentence redrafted as follows:

> "Aquifer States shall take a precautionary approach."

Although Austria does not oppose the ideas expressed in the second sentence, it thinks the explanation given should be part of the commentary.

Brazil

165. Draft article 11 sets forth the obligation of aquifer States to prevent, reduce and control pollution that may cause significant harm to other aquifer States. According to the provision, in view of the uncertainty about the nature and extent of transboundary aquifers and aquifer systems and of their vulnerability to pollution, aquifer States shall take a "precautionary approach". As the Commission is aware, while some transboundary aquifers are already polluted to varying degrees, others are not. The obligation to "prevent" relates to new pollution, while the obligation to "reduce" and "control" relates to existing pollution. Paragraph (2) of the commentary to this draft article provides that the obligation to reduce and control pollution reflects the current practice of States. It also notes that an occasional obligation of abating immediately existing pollution could result in "undue hardship" on the State of origin of the pollution that is disproportionate to the benefit that would accrue to an aquifer State experiencing the harm. Brazil agrees with this interpretation.

166. Brazil supports the decision of the Commission to make reference to a "precautionary approach" instead of a reference to a "precautionary principle". Brazil agrees that "precautionary approach" is an expression less susceptible to controversy in view of scientific uncertainties and aquifer vulnerabilities. It is preferable to keep the term "precautionary approach" in the draft articles.

Finland

167. The environmental perspectives should be given more weight in the draft articles. The widely accepted precautionary principle should be fostered with the goal of reducing the risk of spoiling groundwater that could result from an accident.

Hungary

168. Hungary belongs to the group of countries which considers that the precautionary principle is already included in international environmental law. However, Hungary is aware of the fact that some countries state the opposite. Hungary believes that including the notion of "precautionary principle" into the text of the draft articles would largely contribute to the general acceptance of this principle in international law.

The Netherlands

169. The Commission observes in paragraph (1) of the commentary that this draft article is a specific application of the general principles contained in draft article 4 (equitable and reasonable utilization) and draft article 6 (obligation not to cause significant harm to other aquifer States). The Netherlands would like to draw the attention of the Commission to the academic debate on the interpretation of the corresponding articles of the 1997 Convention on the Law of Non-navigational Uses of International Watercourses, in particular to the question whether the special rules in the chapter of protection, preservation and management prevail over the chapter on general principles with respect to the quality of water. It would be useful to further clarify the relationship between these draft articles, in particular the application of the draft article on the equitable and reasonable utilization of aquifers in relation to the protection and preservation of the quality of water contained in an aquifer. Furthermore, the Netherlands believes that the scope of this draft article should be broadened from aquifer States to all States.

170. In paragraph (6) of the commentary, the Commission further notes that there are differing views whether or not the precautionary principle has been established as customary international law and it has therefore used the less-disputed expression "precautionary approach". The Netherlands firmly believes that the precautionary principle is part and parcel of customary international law and, irrespective of this consideration, prefers the use of the term "precautionary principle" in the draft articles. The Netherlands, furthermore, believes that it is necessary to clarify in what respect aquifer States must apply the precautionary principle. It would appear from the present formulation and context that the precautionary principle must be applied in connection with the prevention, reduction and control of pollution of transboundary aquifers. The Netherlands believes, however, that the precautionary principle must be applied in connection with any utilization of transboundary aquifers. This could be formulated as follows in a separate article to be included in Part III:

> "Aquifer States shall apply the precautionary principle to the utilization of transboundary aquifers and transboundary aquifer systems".

Portugal

171. In order to address matters concerning the quality of groundwaters, Portugal is of the view that in draft article 11 it would be relevant to adopt the following drafting:

> "Aquifer States shall, individually and, were appropriate, jointly, *adopt all the measures to* prevent, reduce and control pollution of their transboundary aquifer or aquifer system ...".

Poland

172. The following redrafting of this provision with regard to the elimination of pollution is proposed:

> "Aquifer States shall, individually and, where appropriate, jointly, prevent, minimize, control and, to the extent practicable, eliminate pollution of their aquifer or aquifer system, including through the recharge process that may cause significant harm to other aquifer States".

Saudi Arabia

173. More detail is needed in respect of defining what is meant by "precautionary approach"; the obligations of States also need to be clarified.

Switzerland

174. In the view of Switzerland, this provision should be strengthened. Sufficient quality is a precondition for the use of any aquifer or aquifer system.

Draft article 12
Monitoring

Brazil

175. Draft article 12 contains rules regarding monitoring and some concepts, such as the convenience of seeking harmonized standards and parameters with a view to monitoring the management of a transboundary aquifer. The draft article recommends aquifer States to carry out such activities together, where possible. The obligation exists, independently from the joint monitoring and is applicable to the exchange of information. The term "as appropriate" should be added to the end of paragraph 1, as the exchange of information is not possible some times for technical or other reasons.

176. Paragraph 2 establishes the use of standards and methodology for monitoring transboundary aquifers as key elements of the obligations of aquifer States. Brazil suggests the inclusion of the expression "where possible" in paragraph 2 with relation to the obligation to use agreed and harmonized standards, so that it can be more realistic.

Turkey

177. It would be more appropriate to have a moderate phrase:

> "Aquifer States shall monitor their transboundary aquifer or aquifer system. They shall carry out these monitoring activities, where appropriate, jointly with other aquifer States concerned and in collaboration with the competent international organizations."

Draft article 13
Management

Austria

178. Draft Article 13 follows examples of existing treaties. The commentary explains that aquifer States should establish management plans on the domestic level and enter into consultations if requested. In Austria's view, the first sentence should be redrafted to clearly reflect the obligation to establish management plans on the domestic level.

Brazil

179. The first part of draft article 13 poses difficulties to Brazil, as it regulates the establishment and implementation of management plans for aquifers based exclusively on the Commission draft articles. These plans must be developed at the regional level not only in accordance with the principles foreseen in the draft articles, but mainly according to regional and subregional agreements. The second obligation established in the draft article, which is to enter into consultations concerning the joint management of the transboundary aquifer or aquifer system, at the request of any of the aquifer States, tends to encourage a unilateral view of the matter. The wording of the second part of article 13 must be reformulated in order to indicate in a more positive manner that the States "should obtain consensus on the ways and methods of consultations" as regards the management of aquifers. The last part of the draft article introduces the notion of "joint management mechanism", which might not be realistic, as the Commission seems to suggest in its commentary. In the view of Brazil, it would be better to refer to the harmonization of management criteria to make it more complementary and cooperative. Notwithstanding, each State must manage the portion of the aquifer located in its own territory. Thus it would be inappropriate to use expressions like "joint management" or "joint management mechanism".

Germany

180. A paragraph should be added to the draft article to emphasize the importance of exchanging basic socio-economic information:

> "Within this joint management mechanism, aquifer States shall exchange data and information on the socio-economic situation and development within their aquifer territory. The aquifer States shall employ their best efforts to collect and create individually or jointly such data and information as they consider a basis for management plans."

181. As a result, the following should be added to the commentary:

"Paragraph 2 relates to data and information on the current socio-economic situation of inhabitants in the aquifer territory or of people relying on the aquifer for their well-being. It relates furthermore to data and information on socio-economic developments among these people. Socio-economic data and information include detailed information about (a) all economic activities that utilize the aquifer or water from the aquifer; (b) all utilization of water from the aquifer for water supply; (c) the number of the people relying on the aquifer for economic or domestic purposes; and (d) changes in the utilization, e.g. through growth of population, migration etc."

Draft article 14
Planned activities

Brazil

182. In respect of Part IV, draft article 14, Brazil supports the balanced approach adopted by the Commission in the elaboration of such a sensitive provision. It is important to highlight that the draft article does not set forth an obligation to establish an independent fact-finding body, thus differently from the Convention on the Law of the Non-navigational Uses of International Watercourses of 1997. Brazil supports the current wording and would not be in a position to accept the introduction of a provision concerning a "suspensive effect" on planned activities.

Colombia

183. The term "significant" should not be used to describe the effect; the words "adverse effect" should be used rather than the phrase "significant adverse effect". Similarly, Colombia proposes that the notification of activities that may affect an aquifer, referred to in paragraph 2 should be accompanied by technical and scientific data.

Cuba

184. Cuba believes that, with a view to ensuring its proper implementation, draft article 14 should specify the meaning of "significant adverse effect".

Czech Republic

185. Under draft article 14, when a State has reasonable grounds for believing that a particular planned activity in its territory may affect a transboundary aquifer or aquifer system and thereby may have a significant adverse effect upon another State, it shall, as far as practicable, assess the possible effects of such activity. In the opinion of the Czech Republic, such assessment can in no way be left to only one party; all States concerned must participate in such assessment.

Israel

186. The word "equitable", as used in draft article 14, appears to have a different meaning than as used previously in the text. Israel believes that the meaning used for this term should be consistent throughout the text of the draft articles and, therefore, Israel recommends the use of an alternative term in draft article 14 in order to avoid confusion.

The Netherlands

187. Pursuant to paragraph 1, a prior assessment of the possible "effects" of a planned activity should be undertaken which would thus include an assessment of the "environmental effects". However, the use of the word "any" in paragraph 2 suggests that "environmental impact assessments" only have to be notified in case such environmental impacts assessment are available. The formulation of this paragraph, which is based on article 12 of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, does not seem to have been aligned with paragraph 1. In any case, the Netherlands believes that the notification must be accompanied by available technical data and information, including the assessment undertaken pursuant to paragraph 1. An explicit reference to "environmental effects" could and, in the view of the Netherlands, should be maintained in this draft article, for example by making an explicit reference to environmental effects in paragraph 1. Although the Netherlands understands, as reflected in paragraph (1) of the commentary to draft article 14, the reasons of the Commission to provide for simpler procedural requirements in these draft articles than those contained in the 1997 Convention, one essential procedural element would seem to be missing in the draft articles. This element is the obligation to refrain upon request from implementing or permitting the implementation of the planned activity during the course of consultations and negotiations. This is not only a safeguard for the potentially affected State during the consultations and negotiations, but also for the planning State after those consultations and negotiations have ended, be it successfully or unsuccessfully.

Turkey

188. Paragraph 3 of this draft article does not give a clear idea about the future of a planned activity, which might have adverse effects on the other aquifer States, if no reasonable resolution of the situation is reached at the end of consultation and negotiation processes. Hence, the following phrase could be added at the end of the said paragraph in order to eliminate this ambiguity:

> "Should no agreement be reached within a reasonable period, notifying State could exercise its sovereign rights to implement its planned activity with best efforts to reduce its adverse effects."

Draft article 15
Scientific and technical cooperation with developing States

Brazil

189. In Part V, draft article 15 sets forth rules regarding scientific and technical cooperation with developing States. Brazil agrees with this provision, but suggests the inclusion of two additional subparagraphs. The items would read:

> "Data collection and joint conduct of technical studies and projects";

and

> "Promotion of technical knowledge and experience exchange among aquifer States with a view to improving their capacity and strengthening cooperation among them as regards groundwater management".

Colombia

190. Re-emphasizing the importance of a system for the monitoring and control of aquifers, Colombia proposes inserting an additional subparagraph, which would read:

> "Supporting the establishment of a network for the monitoring and control of transboundary aquifers".

Israel

191. Israel would like to emphasize its support of cooperation with developing States in the field of water technology.

Poland

192. Since compliance with the obligations set forth in the draft articles by developing States depends predominantly on their material resources and capacity this draft article rightly attempts to ensure that developing States have appropriate material resources and capacity. However, in Poland's opinion, the cooperation in question should be broadened to also address financial and legal matters. It is thus suggested that this provision read as follows:

> "Article 15. Scientific, technical, educational, financial and legal cooperation with developing States
>
> States shall, directly or through competent international organizations, promote scientific, educational, technical, legal and other cooperation with developing States for the protection and management of transboundary aquifers or aquifer systems. Such cooperation shall include, inter alia:
>
> (a) training scientific, technical, and legal personnel;
>
> (b) facilitating participation in relevant international programmes;

(c) supplying them with necessary equipment and facilities;

(d) enhancing their capacity to manufacture such equipment;

(e) providing advice on and developing facilities for research, monitoring, educational and other programmes;

(f) providing advice on and developing facilities for minimizing any detrimental effects of major activities affecting transboundary aquifers or aquifer systems;

(g) preparing environmental impact assessments; and

(h) mobilizing financial resources and establishing appropriate mechanisms in order to help them carry out relevant projects and facilitate their capacity building".

Saudi Arabia

193. The first line of this draft article includes the phrase "States shall ... promote". It is necessary to define what is meant by the word "States". Does the word mean all States of the world? It would be necessary to provide clarification.

194. Saudi Arabia suggests that this draft article should urge developed States, in view of their methodological and practical experience, to share their experience in the joint management of transboundary aquifers.

Turkey

195. The first sentence of draft article 15 promotes scientific, educational, technical and other cooperation with developing States. However, the second sentence, which is "Such cooperation shall include, inter alia" implies obligations. Therefore, it would be appropriate to replace "shall" with "could" in the second sentence.

Draft article 16
Emergency situations

Austria

196. Austria agrees with draft articles 16 and 17, although they raise questions regarding their relationship. It should be clarified whether draft article 16 applies to situations falling under draft article 17.

Brazil

197. With respect to draft article 16, it would be preferable to use the word "risk" instead of "threat". Even though it is relatively clear that the word "threat" in the draft article does not have the meaning it has in the realm of international security, it would be important to avoid, as much as possible, the use of expressions that may lead to an international action. If the word "threat" mentioned in the provision is associated to the idea of harm, the word "risk" should be used as it has a neutral meaning.

Cuba

198. With regard to paragraph 1 of draft article 16, Cuba believes that what is meant by "causing serious harm" should be specified, as the wording is imprecise.

Israel

199. Israel would like to propose the removal of the word "suddenly" from paragraph 1 of the draft article. In this regard, Israel would like to point out that its understanding of the draft article is that it essentially refers to cases in which there arises a "state of necessity", as such term is defined under general international law. In the *Gabcikovo-Nagymaros Project* case,[5] the International Court of Justice dealt with the rules concerning what constitutes a "state of necessity". Its decision is particularly poignant, since the state of necessity that was considered in the ruling was of an ecological nature, related to water management. In that decision, the Court determined that one of the component elements of a state of necessity is the existence of "imminent peril". The Court decided in paragraph 54 that:

> "A 'peril' appearing in the long term might be held to be 'imminent' as soon as it is established, at the relevant point in time, that the realization of that peril, however far off it might be, is not hereby any less certain and inevitable."

200. Israel believes that this finding is particularly relevant to aquifers, which are characterized by the gradual nature in which they are harmed. Israel therefore believes that emergency situations should be deemed to arise as soon as the impending peril is discovered, however far off it might be.

201. Regarding paragraph 2 it is necessary to be cautious about advancing a general rule that requires States to aid another State that is experiencing an emergency. Such a blanket obligation, however desirable it may be, is not yet a part of customary international law. Moreover, the importance of this principle notwithstanding, Israel questions its practicability.

The Netherlands

202. Although the Netherlands sympathizes with the objective of the obligation imposed on States to provide scientific, technical, logistical and other cooperation to other States experiencing an emergency, it doubts whether this provision reflects customary international law. The Netherlands believes that a State experiencing an emergency may request other States for "assistance" and that such other States are obliged to consider and decide upon such request, but this does not mean that an obligation is incumbent on such other States to actually render any assistance. The word "cooperation" would seem to have been used to make this provision more acceptable, but in fact obscures the contemporary state of international law on this point. If the Commission wishes to incorporate this provision as a progressive development of international law, this should be clearly stated in the commentary on this draft article. Similarly, the Netherlands sympathizes with the objective of the special derogation provision of paragraph 3 pursuant to which aquifer States may disregard two basic obligations, namely the principle of equitable and reasonable utilization and the

[5] Case concerning the *Gabcikovo-Nagymaros Project (Hungary v. Slovakia), ICJ Reports* 1997, p. 7.

obligation not to cause significant harm to other aquifer States, in order to protect vital human needs. The Netherlands is, however, not yet convinced that a special temporary derogation provision is needed in addition to a State's right to invoke circumstances precluding wrongfulness under the law of State responsibility to justify non-compliance with a particular obligation incumbent on it. The invocation of circumstances precluding wrongfulness is subject to safeguards and it merits further consideration whether or not to forego these safeguards to protect vital human needs. If the Commission wishes to do so, these implications should be addressed in the commentary on the draft article.

Poland

203. The question arises why this provision should be limited to "sudden" emergencies? Some emergencies could emerge over a significant period of time and be nonetheless exigent. Accordingly, it is proposed to redraft its paragraph 1:

> "1. For the purpose of the present article, "emergency" means a situation, whether resulting from natural causes or from human conduct, and whether arising suddenly or from the accumulation of prior events or activities the significance of which was unrecognized at the time, that poses an imminent threat of causing serious harm to aquifer States or other States".

Saudi Arabia

204. Subparagraph (b) includes the word "States". It is necessary to define and provide clarification as to the meaning of that word.

Draft article 17
Protection in time of armed conflict

Austria

205. It could be required to adjust draft article 17 to the result of the work of the Commission on the "Effect of Armed Conflict on Treaties".

Brazil

206. Brazil endorses the current wording of draft article 17.

Draft article 18
Data and information concerning national defence or security

Brazil

207. Brazil endorses the current wording of draft article 18. Brazil would not accept any amendments that may impose a limit on the right of States to decide about data or information they wish to share. The obligation to cooperate in good faith makes the article adequately balanced, as it

does not interfere with the right of States in respect of information considered sensitive to national security.

Finland

208. Exchanging information concerning transboundary aquifers at regular intervals and with sufficient coverage is particularly important. The data to be shared should include contact information regarding authorities involved in the protection of the environment both at the State and regional levels. For any emergency, easy access to the authorities should be ensured. Under draft article 18, the sharing of key information should not be expressly prevented or hampered, and all activities should be carried out in good faith.

Israel

209. The exception to the obligation to exchange data and information set forth in draft Article 18 allows for States to refrain from conveying data and information only in cases in which national defense or security would be affected, and does not relate to other important national interests found in article 56(5) of the Berlin Rules of 2004, such as intellectual property rights, the right to privacy, or important cultural or natural treasures, all which could be endangered by a requirement to share information. Thus, it is worth considering the expansion of the list of exceptions to the obligation to exchange data and information in order to protect these important interests as well.

Draft article 19
Bilateral and regional agreements and arrangements

Austria

210. Draft Article 19 still raises certain problems: (a) it is unclear whether it intends to define the draft articles, if converted into a convention, as the basis only of a framework agreement that requires further agreements for the individual transboundary aquifers or whether such a convention should be applicable without such agreements; (b) a clarification is also needed regarding the relationship with draft article 13, in particular its last sentence concerning the establishment of "joint management mechanisms". Such mechanisms will obviously constitute bilateral and regional agreements and arrangements as envisaged in draft article 19; (c) it fails to indicate the extent up to which such implementing agreements may deviate from the present draft articles. In particular, it is not clear whether this provision is designed to deviate from the rule on inter-se treaties as embodied in the 1969 Vienna Convention on the Law of Treaties. Although the commentary on this provision explicitly refers to article 4 of the 1997 Convention on International Watercourses, the former is far less elaborated than the latter; (d) it further lacks any indication of the relation to existing or future agreements.

211. The formulation of the draft articles must also take into account the particular position of member States of regional economic integration organization the competences of which comprise issues addressed by such a convention.

Brazil

212. Draft article 19 deals with bilateral and regional agreements and arrangements. This provision contains recommendatory language and encourages aquifer States to enter into such agreements and arrangements. Brazil agrees with paragraph (2) of the commentary by the Commission that the second sentence of draft article 19 cannot be understood as conferring to the other aquifer States a veto power on the projects or programmes mentioned in the provision. However, in order to avoid any interpretation contrary to the spirit of the draft article, the Commission should try to find, in its second reading of the draft articles, some additional language to make it very clear that there is no such veto power.

The Netherlands

213. The draft articles have not been presented in the form of a framework for cooperation. The Netherlands agrees with the Commission as reflected in paragraph (1) of the commentary to draft article 19 that, in the case of groundwater, as well as other liquid substances and gaseous substances, the development of bilateral and regional agreements is still in an embryonic stage and that the framework for cooperation remains to be properly developed. The drafting and placement of the draft article relating to bilateral and regional agreements and arrangements reflects this approach, and is fully endorsed by the Netherlands.

Saudi Arabia

214. Bilateral utilization has positive and negative aspects. Among its positive aspects is that it leads to a greater, more fruitful cooperation among peoples in border areas, thus encouraging peaceful relations. Among its negative aspects is that it might come, however partially, at the expense of another State. The draft article addressed this problem by stating that "except insofar as the agreement or arrangement adversely affects, to a significant extent, the utilization, by one or more other aquifer States of the water in that aquifer or aquifer system, without their express consent".

215. However, the statement "adversely affects, to a significant extent" is broad and requires some specification and definition so that it cannot be misinterpreted or wrongly used by another aquifer State or States. Unless the adverse affect is specified or clearly defined, one or more States could end up having "veto" power.

216. Paragraph (2) of the commentary to draft article 19 includes the phrase "except for some rare cases". It would be advisable to clarify what those rare cases are so that they cannot be used as a justification for numerous interpretations.

Switzerland

217. In the third line of the French version of article 19 there is a small oversight in the words "tout ou partie".

Additional draft articles and rearrangement of draft articles

Switzerland

218. Federal clause: in federal States, groundwater management often lies within the competence of regional entities. In Switzerland, for example, agreements on transboundary water have been concluded by the cantons with the neighbouring States with whom they share the water.

219. The interrelationship between surface and groundwater should be developed.

220. Provisions for dispute settlement should be developed (beyond article 14 (3), which is restricted to the situation of planned activities).

Iraq

221. Certain articles should be rearranged and reordered in a more appropriate manner, as follows: article 9: Administration; article 10: Monitoring; article 11: Protection and preservation of ecosystems.

222. Add a new article in Part V entitled: "Cooperation between aquifer or aquifer system States and relevant international organizations" in order to include cooperation with such organizations in the content of the proposed draft articles.

223. Add another article entitled "Compulsory arbitration clause" involving recourse to international tribunals in the event of any international dispute concerning the interpretation or application of the law.

Final form

Brazil

224. During the second reading the draft articles , the Commission shall decide on the final format of the instrument the Commission will submit to the General Assembly, either a draft convention, or draft articles for its approval and adoption. Brazil reiterates its preference for a non-binding instrument. The technical specificity and incipient knowledge of aquifers, as well as the diverse conditions of the aquifers, require the adoption of flexible guidelines at this stage. These guidelines shall constitute a framework for the development of cooperation among States, especially through bilateral and regional arrangements and agreements. The 1997 Convention on the Law of the Non-navigational Uses of International Watercourses sets a precedent that needs to be observed. The Convention contains controversial provisions, inter alia, with respect to the settlement of disputes and. as a result of that, has not been able to gather a sufficient number of ratifications to enterinto force. This precedent demonstrates that an incremental approach may be the best way to advance international law in this matter. The negotiation of a binding instrument may give the impression that it is possible to jump stages and accelerate the process, but experience has shown that with regard to new subjects based on diverse realities the best way is frequently to adopt non-binding instruments that provide general, flexible and adaptable parameters. It is the view of Brazil that the best way to

move forward with the issue of transboundary aquifers is to transform the draft articles into a non-binding declaration, which would encourage States to negotiate regional and subregional legal instruments of a more specific nature and, if necessary, in a binding format. The adoption of a declaration at this stage does not prejudice the future adoption of a universal binding framework convention, as the law of transboundary aquifers advances on a regional level and aquifer States strengthen their cooperation mechanisms. However, this important step depends on a process that has not yet been concluded. Finally, in case the Commission decides to propose a non-binding instrument, the Commission should adapt the language used in the draft articles accordingly, in particular by excluding from the text the term "shall", which bears a clear mandatory meaning.

Canada

225. As Canada has noted in its comments in the Sixth Committee, it can support this work, as a set of model principles, for possible use by Governments, especially in a regional context where several States may share a groundwater resource. However, there is a need for the draft articles to reflect the utility of alternative mechanisms and to necessarily defer to those that already exist at the bilateral or multilateral level (certainly so in the case of Canada). Indeed, given Canada's existing effective mechanisms, it is not possible for Canada at this point to actively support the draft articles forming the basis for a multilateral convention.

Czech Republic

226. The Czech Republic has been considering the question of the best final form of the draft articles on the law of transboundary aquifers. It has been stressed several times during the work of the Commission that the project of transboundary aquifers shows many features identical or similar to the draft articles that resulted in the adoption of the 1997 Convention on the Law of the Non-navigational Uses of International Watercourses, as well as to the 2001 draft articles on the prevention of transboundary harm from hazardous activities. It would therefore be only logical that the draft articles on the law of transboundary aquifers be finalized in the form of a framework convention.

227. On the other hand, one can argue that the 1997 Convention has not yet entered into force owing to insufficient interest of States in its ratification, and express concerns that the draft articles on transboundary aquifers could have the same fate.

228. Yet, in this concrete case, it appears that the form of a convention would have more advantages than a non-binding resolution or even a mere report of the Commission. The point is that this concrete case is a case of the progressive development of international law. While the failure of a convention codifying customary rules of international law could lead to the questioning of the generally binding nature of these customary rules, there would be no such risk in considering the progressive development of law through a framework convention. Although the entry of such a convention into force may take a relatively longer time and would be binding only on a smaller number of States, a binding convention would be a more appropriate instrument of development of international law in the given area.

229. It remains a question for the Commission whether the draft articles on transboundary aquifers and the future draft articles on oil and natural gas should or should not be incorporated into one convention. Despite the existence of many similarities between groundwaters and oil and natural gas issues, the Czech Republic rather sees differences. That is why it is of the opinion that the reading of the draft articles can be completed regardless of the results achieved in the Commission's discussion on legal questions relating to oil and natural gas. The Czech Republic actually perceives the shared natural resources issues as a very broad subject and are therefore of the opinion that the Commission would achieve more outputs if working on such broad subject.

230. According to the Czech Republic, it is necessary to found out the practice of States regarding international legal issues relating to oil and natural gas. The Czech Republic would like to point out that gathering such information and its subsequent assessment can take a relatively long time. This is also a reason why the Czech Republic believes that it would be useful to complete work on transboundary aquifers regardless of the progress made in the work on oil and natural gas issues.

Finland

231. The draft articles have been presented in the form of a convention. It should yet to be considered how much added value such a convention would potentially generate. It is uncertain whether such a convention would enter into force soon. Moreover, eventual negotiations would also run the risk of watering down the draft articles.

Republic of Korea

232. It seems better if the draft articles could be incorporated in the form of a declaration on the subject. As an alternative, the draft articles could be a set of recommendations, as is the case with the issue of liability for transboundary harm. If the text should take the form of a convention, it would be more advisable to include a dispute-settlement mechanism for the current draft articles.

233. It is to be recommended that parties to a framework convention, if so adopted, should have the option to join with other aquifer States to conclude agreements and thus opt out from the convention in some substance. The opt-out option would be meaningful because particular aquifer States are in the position to best judge their particular situations weighing competing considerations peculiar to their situation regarding their own common aquifers. It is suggested that the addition of such phrases as "unless otherwise agreed" could be considered, as an opt-out clause.

The Netherlands

234. In paragraph (3) of the general commentary, the Commission has taken the view that it is still premature to reach a conclusion on the question of the final form in light of the differing views expressed by States in the Sixth Committee of General Assembly. The Netherlands appreciates the cautious approach of the Commission and suggests to revisit this question only after due consideration has been given to the application of the draft articles to shared natural resources other than groundwater. In the view of the Netherlands, it is in any case not desirable to consider the development of a convention before the completion of the work on those other shared natural

resources. Pending the completion of the work on all shared natural resources, the adoption of a non-legally binding instrument on the law of transboundary aquifers may merit consideration as a first step in the development of an adequate legal regime for the use of shared natural resources.

Poland

235. It seems in the light of the diverse views expressed by States and the fact that international practice is still evolving that it would be premature at this stage to reach a decision on this issue.

Portugal

236. Portugal supports the intention of the Commission to proceed with a second reading of the draft articles. Portugal would like to reaffirm its conviction that the final form of the draft articles should be an international framework convention.

Switzerland

237. The text represents a sound general framework, mostly reflecting norms recognized as customary international law. Switzerland could imagine its provisions either being used as a legally binding instrument on a global, regional or bilateral level, or serving as a model for a specific agreement between neighboring countries on a specific aquifer.